

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

November 6, 2003
468th Regular Board Meeting
Item No. 15

TENTATIVE WASTE DISCHARGE REQUIREMENTS
BROWNING-FERRIS INDUSTRIES OF CALIFORNIA, INC.
(SUNSHINE CANYON CITY LANDFILL)

UPDATED CHANGE SHEET

(This updated change sheet reflects all changes that have been made to the tentative Waste Discharge Requirements and the Monitoring and Reporting Program since June 6, 2003 when these documents were sent to the public for the first time. Deletions are in strike-out and additions are underlined.)

Page 1: Title Line and Finding No. 4 have been revised.

CORRECTIVE ACTION PROGRAM WASTE DISCHARGE REQUIREMENTS

4. The Main City Landfill Area began accepting MSW in 1958, while the North City Landfill Area began accepting MSW in the late 1980's. Both areas ceased accepting wastes ~~prior to~~in 1991. The final cover of the City Side Landfill consists of a monolithic soil cover with a minimum thickness of six feet. As with most MSW landfills operated during ~~the~~this time, the City Side Landfill was not equipped with a liner and leachate collection and removal system (LCRS).

Page 3: Findings No. 13 and No. 18 have revised.

13. The proposed Phase I of City Landfill Unit 2 will be developed as a "canyon cut-and-cover" landfill. Incoming waste will be spread and compacted in approximately one to two-foot thick layers, generally placed in ~~approximately~~lifts up to 20-foot high ~~lifts~~, and covered with a minimum of 6 inches of compacted daily cover soil (including non-hazardous contaminated soils) or an alternative daily cover (ADC, e.g., tarps, green waste) that is approved under section 20690 of 27 CCR.
18. The Facility is surrounded by unincorporated areas of Los Angeles County to the north and west, and the communities of Granada Hills and Sylmar to the south and east. Land uses within 1,000 feet of the site include the County Extension Landfill to the northwest, undeveloped mountainous terrain to the south and southwest, an active oil production area to the south, freeways to the north and northeast, and open space and residential areas to the south and east. The O'Melveny Park of the City of Los Angeles is located to the west and southwest of the landfill property.

Page 4: Finding No. 26 has been revised.

26. The Facility is not underlain by a major groundwater basin. However, the northern boundary of the San Fernando Groundwater Basin, an important groundwater resource in this Region, is located

approximately one mile to the south of the project site. Pollutants released from the landfill can potentially be carried out the canyon and reach the groundwater basin [and cause pollution](#).

Page 5: Finding No. 29 has been revised.

29. There is an overall transition with depth from mostly Ca-MgSO₄ groundwater to mostly Na-HCO₃ groundwater at the site. The majority of the groundwater within the shallow water-bearing zone is a Ca-MgSO₄ type water with total dissolved solids (TDS) ranging from 2,000 to 4,000 mg/L. Groundwater within the unweathered bedrock zone is primarily a Na-HCO₃-SO₄ type water with TDS ranging from 1,000 to 3,000 mg/L. Because of high concentrations of salts and low yield, groundwater at the site is currently not ~~beneficially~~ used [as a drinking water source](#).

Page 7: Finding No. 41 has been revised to clarify the leachate disposal practice at the Facility.

41. Landfill gas (LFG) at the City Landfill Unit 1 is collected by a network of approximately 110 LFG collection wells and collection pipelines, and is combusted at a LFG flare station onsite in accordance with the regulations of the SCAQMD. Landfill gas condensate collected at the City Landfill Unit 1 is discharged to the City of Los Angeles sanitary sewer system in accordance with sewer discharge requirements established by the City of Los Angeles Industrial Waste Division for the Facility. [\(The leachate and gas condensate collected at the County Extension Landfill, and any non-storm water that is not used onsite, are also discharged to the sanitary sewer system under the same discharge requirements.\)](#)

Page 9: Finding No. 54 has been modified because BFI has proposed an updated corrective action measure as reflected in Finding No. 62.

54. In accordance with the requirements of the CAO, BFI submitted a technical report to this Regional Board on February 14, 2003. The report includes a delineation assessment that addresses the detection of VOCs in monitoring well MW-10 and the statistical exceedances of inorganic constituents in the Extraction Trench Area, an updated EFS, and an AROWD. The EFS and AROWD proposed corrective action measures that could be taken to achieve background water quality standards at the site. ~~These corrective action measure will be incorporated in the requirements of this Order.~~

Page 10: Two new findings (No. 61 through No. 63) have been added to address the detection of 1,4-Dioxane in groundwater at the City Side Landfill and the issuance of a Cleanup and Abatement Order on October 17, 2003. Finding No. 61 (now No. 64) has been modified as a Corrective Action Program (CAP) is now required at the City Landfill.

- [61. Under a program initiated by this Regional Board, BFI conducted a one-time sampling event for emergent chemicals including perchlorate, m-nitrosodimethylamine \(NDMA\), 1,4-dioxane \(dioxane\), 1,2,3-trichloropropane \(TCPA\), chromium, and hexavalent chromium \(chromium-6\) at both the City Side Landfill and the County Extension Landfill and submitted its reports of these investigations to the Regional Board on June 23, 2003. The reports indicate dioxane was detected in leachate samples from both the County Extension Landfill and the City Side Landfill and three groundwater monitoring wells at the City Side Landfill, as well as in the groundwater extraction trench. The detection of dioxane in the groundwater at the City Side Landfill represents “measurably significant” evidence of a release from the landfill as defined in section 20164 of 27 CCR.](#)

62. On August 11, 2003, BFI submitted another AROWD (dated August 7, 2003) to the Regional Board and proposed a CAP that includes corrective measures for the remediation of groundwater that has been impacted by pollutants released from the landfill. These corrective measures include the construction of an impermeable subsurface barrier (cutoff wall) across the mouth of the Sunshine Canyon, installation and operation of extraction wells to remove groundwater from behind the cutoff wall, upgrading and continuing operation of the existing groundwater extraction trench, ongoing upgrades and operation of the landfill gas collection system, and modification to the groundwater monitoring system.
63. On October 17, 2003, the Executive Office issued CAO No. R4-2003-0132, which replaced CAO No. R4-2002-0161 and required BFI to implement a CAP at the City Side Landfill. In accordance with section 20430 of 27 CCR, the CAP is incorporated in this Order as Corrective Action Program Waste Discharge Requirements. The requirements in this Order supercede those included in CAO No. R4-2003-0132.
- ~~64.~~ 64. This Order places the entire City Landfill into a **EMP CAP** to plan and propose corrective measures meeting applicable State and Federal requirements. This approach eliminates needless complexity associated with applying concurrent programs (i.e., running unaffected portions under a DMP and the portions affected by the release under either an EMP or a CAP, or both). The Regional Board chooses to implement this approach by documenting and responding to the compliance status of each monitoring parameter (Mpar) individually at each compliance well separately (i.e., BFI will track the compliance status of each such “well/MPar pair” separately).

Page 12: Requirements No. B.4. and No. 7 have been modified for clarification. Requirement No. B.8. has been deleted because it duplicates with Requirement No. E.11.

4. No radioactive waste, including low level radioactive waste, as defined by the agency with jurisdictional authority, shall be disposed at Phase I of City Landfill Unit 2.~~Radioactive material that has not been released from regulatory control by the agency with jurisdictional authority shall not be disposed at Phase I of City Landfill Unit 2.~~
7. No septic tank or chemical toilet wastes, sewage sludge, incinerator ash, asbestos or asbestos products, or dead animals, shall be disposed of at Phase I of City Landfill Unit 2.
8. ~~The discharge of wastes or waste by products (i.e., leachate or gas condensate) to natural surface drainage courses or to groundwater is prohibited.~~

Page 14: Requirement No. D.2. has been modified to ensure compliance with State Board Resolution No. 93-62. Requirement No. D.3. has been added to require a composite liner system that is upgraded from what has been proposed in the JTD.

2. The landfill shall have containment structures that are capable of preventing degradation of the waters of the state and shall be designed to withstand a MCE without failure. Construction standards for containment structures shall comply with 27 CCR requirements. Design specifications, including any alternative design proposal meeting the prescriptive standards and/or performance goals of 27 CCR and State Board Resolution No. 93-62, are subject to the Executive Officer's review and approval prior to construction of any containment structure.
3. The composite liner system at the base of Phase I of City Landfill Unit 2 shall contain, from bottom to top, prepared base geological material, a compacted clay layer at least four (4) feet

thick with a hydraulic conductivity of no more than 1×10^{-7} cm/second, and a synthetic (high density polyethylene, or HDPE) sheet at least 80 mils thick. The composite liner system at the slopes of the landfill shall contain, from bottom to top, prepared base geological material, a geosynthetic clay liner (GCL), and a HDPE sheet at least 80 mils thick. Leachate collection sumps at the landfill shall be constructed with a multi-layer system, equipped with lysimeters, as proposed in the JTD.

Page 16: Requirement No. E.18. has been modified to ensure the appropriate decommissioning of abandoned wells at the site.

18. Any abandoned wells or bore holes under the control of BFI, and situated within the Landfill boundaries, must be located and properly modified or sealed to prevent mixing of any waters between adjacent water-bearing zones. A notice of intent to decommission a well must be filed with the appropriate regulatory agencies prior to decommissioning. Procedures used to decommission these wells, or to modify wells still in use, must conform to the specifications of the local health department or other appropriate agencies. If such abandoned wells or bore holes are encountered during construction activities, BFI must notify the designated Board staff contact verbally with 24 hours and in writing within seven days. Such abandoned wells or bore holes must be properly decommissioned before all affected construction activities can proceed.

Page 17: Requirement F.1. has been changed to ensure final closure is completed before construction of new liner is started on those portions of the existing landfill that overlap with the new landfill.

1. Within 180 days of the adoption of this Order, BFI shall complete all final closure construction activities at the City Landfill Unit 1 in accordance with the Final Closure Plan that was approved by the Executive Officer on July 15, 1997, including the construction of the sediment basin at the entrance area of the site. A construction quality assurance (CQA) report for the final closure shall be submitted to the Regional Board within 60 days of the completion of final closure construction activities. Construction of the liner system that will be located on the slopes of the existing landfill shall not be started until the final closure construction activities of the existing landfill are completed.

Page 19: Section I, the Evaluation Monitoring Program (EMP) has been replaced by a Correction Action Program (CAP).

~~I. — Evaluation Monitoring Program (EMP)/Assessment Monitoring Program (AMP)~~

- ~~1. — Because the City Landfill has had a measurable significant release and a formal Corrective Action Program (CAP) has not been established, BFI shall continue implementing an Evaluation Monitoring Program (EMP) in accordance with 27 CCR section 20425, and an Assessment Monitoring Program (AMP) in accordance with 40 CFR 258.56, at the site, as prescribed in the attached M&RP (No. CI 2043).~~
- ~~2. — Within 90 days of the adoption of this order, BFI shall submit an updated Engineering Feasibility Study (EFS) under 27 CCR section 20425(e) and shall begin an Assessment of Corrective Measures (ACM), and Selection of Remedy (SOR) under 40 CFR sections 258.55, 258.56, and 258.57, respectively, to the extent that these federal requirements are not addressed by the EMP or the Landfill's current monitoring program.~~

- ~~3. The updated EFS shall include a detailed workplan to finalize the potential corrective measures that were proposed in BFI's February 14, 2003, preliminary EFS, including:~~
 - ~~a. A conceptual model that describes the potential pathways that pollutants may be released from the Landfill and how the proposed corrective actions will stop and remediate the pollution of groundwater caused by the Landfill;~~
 - ~~b. A detailed description of the LFG management networks at the site and any proposed changes or adjustments of the network;~~
 - ~~c. The addition of more pumping capacity and improved water level monitoring devices at the existing groundwater extraction trench;~~
 - ~~d. The construction of a cutoff wall or walls at the entrance area of the Sunshine Canyon to cutoff the shallow groundwater flowing offsite;~~
 - ~~e. Any additional measures that BFI intends to conduct to remediate the impacts of groundwater by the Landfill;~~
 - ~~f. Any changes of the groundwater monitoring networks at the site with the consideration of the construction of the cutoff wall, sediment basin, and other facilities at the Landfill.~~
- ~~4. The ACM, under 40 CFR 258.56, shall include an assessment of:~~
 - ~~a. The performance, reliability, ease of implementation, and potential impacts of appropriate potential remedies, including safety impacts, cross-media impacts, and control of exposure to any residual pollution;~~
 - ~~b. The time required to begin and complete the proposed remedy (including the proposed suite of CAMs);~~
 - ~~c. The costs of implementing the proposed remedy;~~
 - ~~d. State or local permit requirements or other environmental or public health requirements that may substantially affect implementation of the remedy.~~
- ~~5. The selection of remedy (SOR) work, under 40 CFR 258.57, shall address the following concerns regarding the proposed remedy:~~
 - ~~a. The proposed remedy must meet the following goals and standards:~~
 - ~~i. Protection of human health and the environment;~~
 - ~~ii. Attainment of the groundwater protection standard (of 40 CFR 258.57(h or i));~~
 - ~~iii. Control of the source(s) of releases so as to reduce or eliminate further releases of COCs, including Appendix II constituents;~~
 - ~~iv. Compliance with standards for management of wastes as specified in 40 CFR 258.58(d).~~

- ~~b. In proposing a remedy, BFI shall include consideration of the evaluation factors contained in 40 CFR 258.57(e); and~~
- ~~c. BFI shall propose a schedule, effective upon approval by the Executive Officer, for initiating and completing the remedial activities as set forth in 40 CFR 258.57(d)(1-8).~~
- ~~d. If at any time BFI determines that the release has crossed the Landfill boundary, BFI shall, within 30 days of such determination, begin providing the Regional Board with an up-to-date list that shows, at any given time, the names and addresses of all "affected parties" (all persons who own or reside upon land that overlies the release, pursuant to 40 CFR 258.55(g)(1)(3)(iii)), so that the Regional Board can invite these affected parties to each Board meeting at which the corrective measures are discussed and either chosen or revised.~~
- ~~6. Within 180 days of the adoption of this Order, BFI shall submit a final EFS and amended JTD to establish a CAP meeting 27 CCR section 20425(b, c, and d) and 40 CFR 258.56 through 258.58.~~
- ~~7. In addition to a proposed CAP, the final EFS shall also include the following:~~
 - ~~a. An estimate of the projected costs for CAP proposal, the implementation of interim CAMs, and the CAP;~~
 - ~~b. In the event that this estimate exceeds the Landfill's "reasonably foreseeable release" coverage, BFI shall propose an update to the Landfill's corrective action financial assurance; and~~
 - ~~c. An estimate of the cost of hiring a third party to perform the corrective action pursuant to 40 CFR 258.73(a).~~
- ~~8. BFI shall implement the CAP, pursuant to 27 CCR section 20430 and 40 CFR 258.58, when the Regional Board determines that the EMP and the design of the CAP have been satisfactorily completed and that CAP WDRs for the site have been appropriately revised.~~
- ~~9. Until the adoption of CAP WDRs, BFI shall continue to implement the current interim CAMs, together with any additional or replacement interim CAMs the Executive Officer either approves, at BFI's request, or requires for the protection of water quality.~~

I. Corrective Action Program (CAP)

- 1. BFI shall implement a CAP at the Sunshine Canyon City Landfill as proposed in the AROWD that was submitted to the Regional Board on August 11, 2003, and subsequently required by CAO No. R4-2004-0132 on October 17, 2003. Pursuant to section 20430(h) of 27 CCR, the Regional Board may require BFI to submit amended reports of waste discharge to make appropriate changes to the CAP.
- 2. At minimum, the CAP shall include the construction of an impermeable subsurface barrier (cutoff wall) across the mouth of the Sunshine Canyon, installation and operation of extraction wells to remove groundwater from behind the cutoff wall, upgrading and continuing operation of the existing groundwater extraction trench, ongoing upgrades and

operation of the landfill gas collection system, and modification of the groundwater monitoring system.

3. By November 16, 2003, BFI shall submit a detailed construction plan, for the Executive Officer's approval, that outlines all construction activities that are proposed in the August 11, 2003 AROWD. The plan shall ensure that the construction of the sediment basin that is required under the Final Closure Plan of City Side Landfill, which will be located in the same area as the groundwater extraction trench and the proposed cutoff wall, will not impact the integrity of the CAP measures.

Page 22: Requirement No. J.6. has been modified for clarification.

6. During periods of precipitation, when the use of irrigation or dust control is not necessary for the purpose specified in this Order, all non-storm water collected at the site shall be stored or ~~hailed to~~disposed at a legal point of disposal.

Page 25: Requirement No. M.2. has been modified to rescind CAO No. R4-2003-0132.

2. Except for enforcement purposes, Regional Board CAO No. ~~R4-2002-0161~~R4-2003-0132, adopted on ~~November 4, 2002~~October 17, 2003 is hereby rescinded.

CHANGES TO MONITORING AND REPORTING PROGRAM

Page T-1: The first paragraph has been modified because of the issuance of COA No. R-4-2003-0132.

Browning-Ferris Industries of California, Inc. (BFI, or Discharger) shall begin implementing this revised Monitoring and Reporting Program (M&RP)* ~~30 days after its adoption by the Regional Board~~ beginning the effective date of Board Order No. R4-2003-xxxx.

Page T-6: The First paragraph has been modified because a CAP is required at the City Side Landfill

~~This order recognizes that there has been a release of pollutants to groundwater at the Sunshine Canyon City Landfill. Because a formal Corrective Action Program (CAP) has not been established, BFI shall continue implementing an Evaluation Monitoring Program (EMP) and a Federal Assessment Monitoring Program (AMP) at the Landfill. BFI shall conduct the following monitoring and inspections at the Sunshine Canyon City Landfill.~~ Unless otherwise indicated, all monitoring data and inspection results shall be reported to the Board as outlined in **Section I** of this M&RP.

Page T-7, Table T-1: Groundwater monitoring well No. MW-5 has been changed from stand-by status to a regular monitoring well and will be monitored on a quarterly basis. Monitoring wells No. DW-1 and DW-4 will be sampled quarterly instead of semiannually.

Table T-1: Monitoring Points at the City Landfill

Media Monitored	Monitor Point	Location
Shallow Groundwater Zone	MW-1 ^[1] , MW-2A ^[3] , MW-5 ^{[2][1]} , MW-6 ^{[2][3]} , MW-7 ^{[1][3]} , MW-8 ^{[2][3]} , MW-9 ^{[1][3]} , MW-10 ^{[1][3]} , Extraction Trench ^{[1][3]} , MW-13 ^[1]	Down-gradient
	MW-4 ^[3]	Upgradient
Deep Groundwater	MW-2B ^[3] , DW-1 ^{[1][3]} , DW-4 ^{[1][3]}	Down-gradient
	DW-2, DW-3	Side-gradient
Surface Water	S-A ^[3] , S-B ^[3]	Down Canyon
	S-C ^[3] , S-D ^[3]	Up Canyon
Leachate	LR-2 ^[3] and leachate sumps at Unit 2	N/A
Unsaturated zone	Subdrain outlets ^[3] and GP-1 ^[3] through GP-14 ^[3]	N/A

^[1] Current Quarterly monitoring points

^[2] Standby monitoring points

^[3] It is anticipated that these monitoring points will be revised as necessary for landfill site development (cell construction, storm water conveyance and control systems, and access roads) and City Landfill Unit 1 Closure activities. For any monitoring wells that require abandonment, the discharger shall submit a technical report for ~~Regional Board~~ the Executive Officer's approval. The Technical Report shall provide the rationale for removal, replacement, or relocation of the existing monitoring point.

Page T-8: 1,4-Dioxane has been added to the list of “Indicator Parameters” and will be analyzed for in all water samples from the site.

Page T-10: Section II.B.7.a. has been changed to reflect changes of groundwater monitoring points.

- a. **Quarterly Monitoring:** shall be conducted at monitoring wells MW-1, [MW-5](#), MW-7, MW-9, MW-10, MW-13, [DW-1](#), [DW-4](#), and the groundwater extraction trench on a quarterly basis. Water samples ~~for Evaluation Monitoring~~ from these monitoring points shall be analyzed for all Indicator Inorganic Parameters on a quarterly basis and all Supplemental Parameters on a semi-annual basis;

Page T17, Figure T-1: Site map has been updated.